NORTH AMERICAN *XESTOBIUM* (ANOBIIDAE) WITH A NEW SPECIES

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Abstract

The North American species of *Xestobium* are reviewed, a key to species is presented, and the male genitalia are illustrated. *X. gaspensis* n. sp. is described from Gaspé County, Quebec.

The species of *Xestobium* Motschulsky are primarily wood-borers. The deathwatch beetle, *X. rufovillosum* (DeGeer), 1774, though rarely important in North America, has at times badly damaged structural wood of buildings in England and Europe. Hosts of these species are listed in the catalog of North American Anobiidae (White, in press).

Fall (1905) included 2 species in his treatment of *Xestobium,* namely *rufovillosum* and *affine* Lec. Fisher (1947) described *abietis,* and White (1969) transferred *marginicolle* (Lec.), 1859, to *Xestobium.* The new species below brings the total to 5. A key to species is provided, and the male genitalia of all species are illustrated.

Xestobium gaspensis White, **new species**
(Fig. 3, 6, 7)

General: Elongate, cylindrical, body 2.3 times as long as wide; ground color brown, pronotum, ventral surface, and sometimes head clouded with black, legs and antennae brown to red brown; elytra with irregular reflective patches of weakly golden pubescence, remainder of body with weakly golden, evenly distributed, reflective pubescence, pubescence appressed nearly throughout, some on ventral surface suberect; all body surfaces granulate or granulate-punctate.

Head: Antenna (both sexes) 0.33 as long as body, 1st segment large, broad, 2nd segment much smaller, broad, 3rd segment elongate narrow, about 3 times as long as wide, segments 4 through 8 subequal, each about 1.5 times as long as wide, segments 9, 10, and 11 elongated and broadened, together as long as preceding 5 segments combined. Front densely granulate, female with a median longitudinal, impunctate, shining carina, carina obscure in male. Eyes bulging, separated by 2.3 to 2.8 times vertical diameter of an eye. Last segment of maxillary and labial palpi fusiform, each about 2 times as long as wide.

Dorsal surface: Pronotal pubescence moderately dense, reflective, swirled; surface densely granulate; lateral margin explanate, in lateral view sinuate; disk feebly, longitudinally depressed at middle. Scutellum moderate in size, covered with dense pubescence. Elytra with reflective patches of pubescence forming no discernible pattern, areas between reflective patches

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with short, sparse, dark, nonreflective pubescence; female with base of elytra bearing fine, dense, nonreflective pubescence, in area about 3 times as wide as scutellum and 3 times as long, with very fine granulation in this region, each elytron diagonally behind scutellum weakly, broadly depressed; in male nonreflective patch and depression smaller and less distinct; surface densely granulate.

Ventral surface: Densely granulate-punctate; abdominal sutures distinct, nearly straight; abdominal apex of male weakly produced ventrally and broadly, weakly sinuate, apex of female distinctly, abruptly produced ventrally and narrowly, distinctly sinuate.

Length: 5.5-6.7mm.

The male holotype (USNM no. 72668) and a female paratype (in USNM) bear the data "Gaspé Co., Que., 30 Aug. 1933, E. B. Watson; Dry Abies balsamea"; a single female paratype (in USNM) differs in that it was taken on 27-VI-1934, and has no host data.

X. gaspensis is most similar to *abietis*; the latter averages larger with a range of 5.9-8.0mm, the pubescence at the base of the pronotum before the scutellum tends to coalesce, especially in the female, and the female has adjacent to the scutellum a finely granulate, vaguely depressed area bearing fine, nearly nonreflective pubescence, this area is about 0.5 the size of the corresponding region in *gaspensis*. *X. gaspensis* differs from *affine* as follows: the latter averages smaller with a range of 4.8-6.0mm, the bases of the pronotum and elytra are depressed (most distinct in lateral view), the pubescence is coarser and the patches less distinct, and there is no fine, nonreflective pubescence adjacent to the scutellum, and no depressed area. *X. rufovillosum* differs from *gaspensis* in that the granulation of the dorsal surface is much coarser, and the scutellar area of the elytra is unmodified.

Attempts to use the above characters will emphasize the subtle nature of the external differences between most species of *Xestobium*. Of the 5, only *marginicolle* is readily identified by external characters alone. However, the male genitalia of the species are markedly distinct, and these offer the most reliable characters for separation; distribution is also an aid. Following is a key to species.

Key to North American Species of *Xestobium*

1. Pubescence of dorsal surface evenly distributed and erect in part; California to British Columbia; male genitalia Fig. 1 ..... *marginicolle* (Lec.)

1′. Pubescence of dorsal surface not evenly distributed, appressed, forming irregular yellow patches; various localities; male genitalia Fig. 2-5 2

2(1). Apex of 5th abdominal segment produced ventrally and distinctly sinuate at middle, Fig. 7, (females) 3

2′. Apex of 5th abdominal segment not produced ventrally, evenly arcuate to weakly sinuate at middle, Fig. 6 (males and females) 4

3(2). Pronotal pubescence before scutellum not coalescing; elytra at base vaguely depressed and with a patch of fine, nonreflective pubescence about 3 times as wide and 3 times as long as scutellum; Quebec ..... *gaspensis* White

3′. Pronotal pubescence before scutellum coalescing; elytra at base not as above; Oregon to British Columbia ..... *abietis* Fisher

4(2′). Granulation of dorsal surface quite coarse; northeast U. S. and in commerce; male genitalia Fig. 5 ..... *rufovillosum* (DeG.)

4′. Granulation of dorsal surface less coarse; Quebec or western North America 5

5(4′). Male genitalia Fig. 3; Quebec ..... *gaspensis* White

5′. Male genitalia Fig. 2, 4; Western North America 6

6(5′). Length 4.8 to 6.0mm; male genitalia Fig. 4; California to British Columbia ..... *affine* Lec.

Length 5.9 to 8.0mm; male genitalia Fig. 2; Oregon to British Columbia ..... *abietis* Fisher

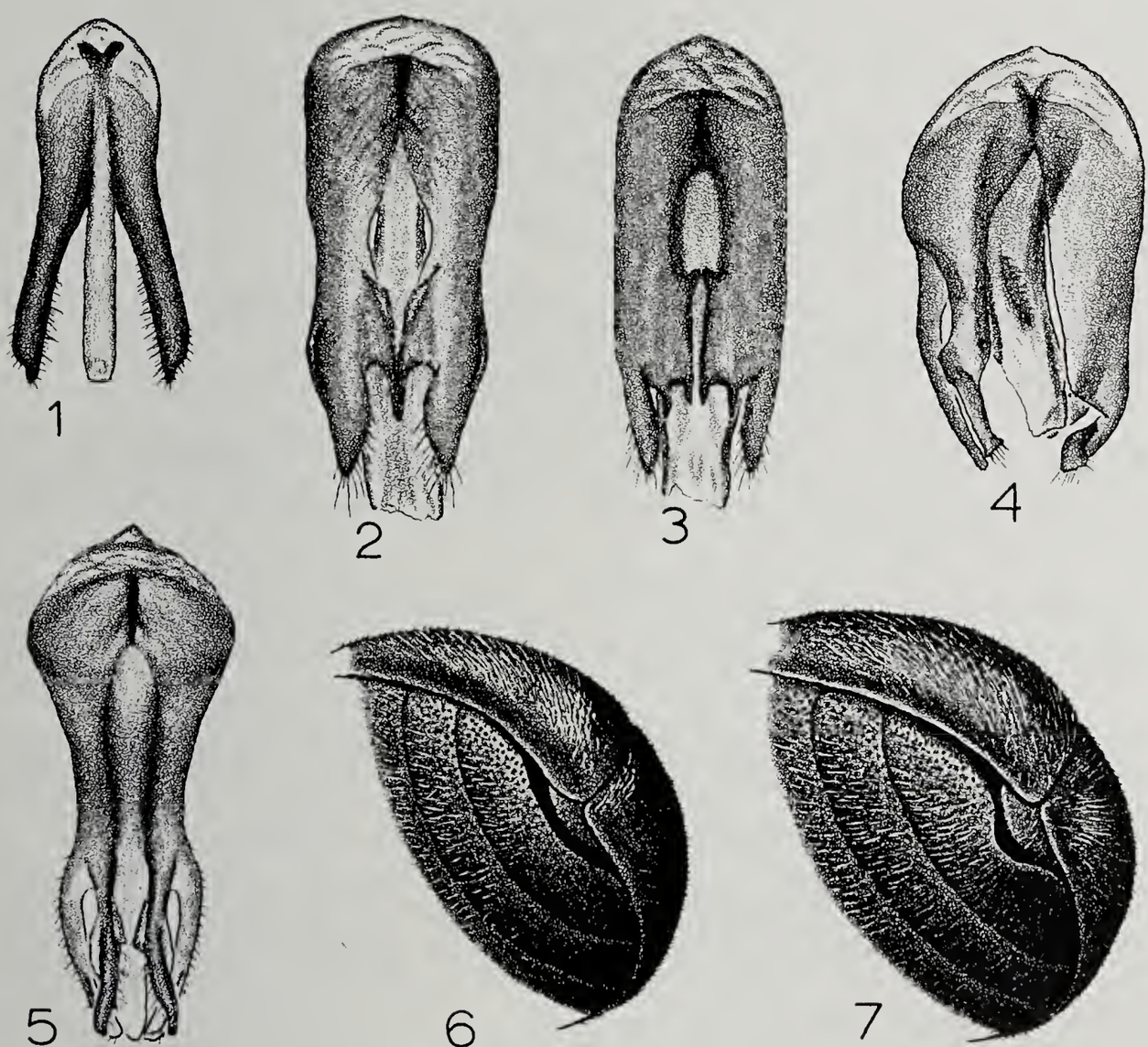

Fig. 1-5: Male genitalia: 1) *X. marginicolle* (Lec.); 2) *X. abietis* Fisher, holotype; 3) *X. gaspensis* White, holotype; 4) *X. affine* Lec.; 5) *X. rufovillosum* (DeG.). Fig. 6-7: abdominal apices, *X. gaspensis*: 6) male; 7) female.

References

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Book Notices

With the current emphasis on behavior (or ethology if you wish), there have been many new, excellent books on the subject. The following should be of interest to our readers.

Experimental Analysis of Insect Behavior. 1974. Edited by L. Barton Browne. Springer-Verlag, Inc., 175 Fifth Ave., New York, New York 10010. 366 p., 151 fig. (printed from camera-ready typed copy). $15.40, cloth.

The Sixth Sense of Animals. 1973. Maurice Burton. Taplinger Publ. Co., 200 Park Ave., So., New York, New York 10003. 182 p., 16 pages of photos, 41 text illustr. $6.95, cloth.

The Behaviour of Animals. 1972. Jiro Kikkawa & Malcomb J. Thorne. Taplinger Publ. Co., 200 Park Ave., So., New York, New York 10003. 223 p., 106 fig. $7.95, cloth.

The Study of Instinct. 1974. Niko Tinbergen. Oxford University Press, Inc., 200 Madison Ave., New York, New York 10016. 228 p., 130 fig. $3.95. (a paper back printing of a well-known book first issued in 1951).

The Animal in its World. (2 vols.) 1975. Niko Tinbergen. Harvard University Press, 79 Garden St., Cambridge, Mass. 02138. Volume 1: Field Studies. 343 p., 111 fig., $15.00. Volume 2: Laboratory Experiments & General Papers. 231 p., 157 fig., $14.00, cloth.

—R. E. Woodruff